

In the Claims:

Claim 1 (previously presented): A device for the selective control of a liquid flow from an external body of liquid or liquid and solid separation comprising:

a container having an inlet for the intake of a liquid into the container from an external body of liquid, an outlet for the discharge of the liquid from the container, and a closed bottom surface;

a float buoyantly positioned within the container and configured to rise and fall in response to the level of liquid within the container; and

a valve positioned inside the container in association with the outlet, said valve coupled to the float such that the valve opens when the float rises above a preselected height within the container and the valve closes when the float falls to the preselected height within the container, wherein the distance between the float and the valve when the float is positioned at the preselected height determines a height of liquid required to open the valve, wherein the valve is oriented at an angle that ranges from an angle greater than zero to about a 60° angle relative to horizontal.

Claim 2 (original): The device of claim 1, wherein the inlet comprises an inlet pipe and the outlet comprises an outlet pipe, with the inlet and outlet pipes being positioned in the same plane; and the valve is positioned at a height that is spaced from the closed bottom surface of the container.

Claim 3 (original): The device of claim 1, wherein the inlet has a dimension and the outlet has a dimension, and the inlet dimension is smaller than the outlet dimension.

Claim 4 (original): The device of claim 1, wherein the container is a riser and the valve is a flapper valve.

Claim 5 (original): The device of claim 4, wherein the flapper valve comprises a rigid plate adjoined to a flexible seal, with the rigid plate being coupled to the float.

Claim 6 (original): The device of claim 1, wherein the float comprises a closed-cell foam enclosed in a plastic outer shell.

Claim 7 (original): The device of claim 6, wherein a linkage is positioned between the float and the valve and the linkage is adjustable in length.

Claim 8 (original): The device of claim 7, wherein the linkage between the float and the valve is at least one of a flexible member and a rigid member, said flexible or rigid member including a cord, a string, a bar, and a chain, said bar including a plurality of adjustment holes positioned at spaced locations along the length of the bar.

Claim 9 (original): The device of claim 4, wherein the flapper valve includes a hinge at one end and is coupled to the float at the other end such that the flapper valve opens around the hinge when the float rises above the preselected height, with the hinge being one of a living hinge or a mechanical hinge.

Claim 10 (original): The device of claim 4, wherein the flapper valve is oriented in a recumbent position within the riser.

Claim 11 (cancelled)

Claim 12 (previously presented): The device of claim 10, wherein the recumbent position is about 45° relative to the horizontal.

Claim 13 (original): The device of claim 10, wherein liquid flows into the outlet in a direction that is substantially perpendicular to a movement direction of the flapper valve.

Claim 14 (original): The device of claim 1, further comprising a vortex plate positioned in the outlet.

Claim 15 (original): The device of claim 1, wherein the container is a catch basin having an open top and the inlet comprises the open top.

Claim 16 (original): The device of claim 15, further comprising a removable grate structure positioned over the open top.

Claim 17 (original): The device of claim 1, wherein the container, inlet and outlet are molded as one piece.

Claim 18 (original): The device of claim 1, wherein the container, inlet, and outlet are comprised of one of plastic, concrete, fiberglass, or metal.

Claim 19 (original): The device of claim 1, wherein the container comprises a corrugated pipe having a base structure forming the bottom surface and an open top end, and the inlet and outlet both comprise a conduit, each of which is affixed to the corrugated pipe of the container, with the open top end of the container being covered by a cap.

Claim 20 (original): The device of claim 1, wherein the container and valve are together configured to separate solids from liquids within the container.

Claim 21 (original): The device of claim 1, wherein the container and valve are together configured to separate liquids and solids within the container from a base liquid, with liquids and solids having a greater density than a density of the base liquid sinking to the bottom surface of the container and liquids and solids having a lesser density than the density of the base liquid floating on top of the base liquid.

Claim 22 (previously presented): A flow control device comprising:

- a riser having an inlet for the intake of a fluid, an outlet for the exit of a fluid, and a closed bottom surface;

- a float positioned inside the riser and configured to travel in response to a fluid level in the riser; and

- a valve positioned inside the riser coupled to the float, said valve being movably responsive to the travel of the float, wherein the valve is coupled to the outlet and is oriented at an angle ranging from greater than zero to about 60 degrees relative to horizontal.

Claim 23 (original): The device of claim 22, wherein the angle is about 45° relative to horizontal.

Claim 24 (original): The device of claim 22, further comprising a linkage positioned between the float and the valve; and

- a linkage latching mechanism for fixing the length of the linkage between the float and the valve.

Claim 25 (original): The device of claim 24, further comprising a means for raising the float height.

Claim 26 (currently amended): A method for controlling liquid flow from an external body of liquid comprising:

providing a container having an inlet and an outlet within the container;

disposing a valve between the inlet and the outlet within the container, wherein the valve is oriented at an angle that ranges from an angle greater than zero to about a 60° angle relative to horizontal;

coupling a float to the valve, said float being buoyantly responsive to liquid that enters the container such that the valve opens when the float rises above a preselected height within the container and the valve closes when the float sinks to the preselected height within the container, wherein the distance between the float and the valve when the float is positioned at the preselected height determines a height of liquid required to open the valve.

Claim 27 (original): A method for separating solids received from an external body of liquid that includes solids and liquids comprising:

the method of claim 26; and

positioning a height of the valve such that at least some of the solids sink to a position below the height of the valve, wherein when the valve is opened, liquids exit into the outlet.

Claim 28 (original): A method of separating liquids having a first density and a second density that are disposed together in a liquid received from an external body of liquid comprising:

the method of claim 26; and

positioning the height of the valve such that liquids having a first density sink to a level within the container that is below the valve and liquids having a second density rise to a level that allows them to exit into the outlet through the valve when the valve is opened.

Claim 29 (original): The method of claim 27, wherein the liquid received from an external body of liquid further comprises a liquid having a third density, and further comprising positioning the height of the valve such that the liquid having a third density rises to a level above the valve such that when the valve is opened, the liquid having a second density exits the container while the liquids having a first and third density remain in the container.

Claim 30 (previously presented): A device for the selective control of a liquid flow from an external body of liquid or liquid and solid separation comprising:

a container having an inlet for the intake of a liquid into the container from an external body of liquid, an outlet for the discharge of the liquid from the container, and a closed bottom surface;

a valve positioned inside the container in association with the outlet and configured to be opened and closed, wherein the valve is oriented at an angle that ranges from an angle greater than zero to about a 60° angle relative to horizontal.

Claim 31 (previously presented): The device of claim 30, further comprising a winch coupled to the valve for opening and closing the valve.

Claim 32 (currently amended): A device for the selective control of a liquid flow from an external body of liquid or liquid and solid separation comprising:

a container having an inlet with a first dimension for the intake of a liquid into the container from an external body of liquid, an outlet with a second dimension for the discharge of a liquid from the container, and a closed bottom surface, with the inlet dimension being smaller than the outlet dimension; and

a float buoyantly positioned within the container and configured to rise and fall in response to the level of liquid within the container; and

a flapper valve positioned in the container in association with the outlet and configured to be opened and closed, said flapper valve coupled to the float such that the flapper valve opens when the float rises above a preselected height within the container and the flapper valve closes when the float falls to the preselected height within the container.

Claim 33 (previously presented): The device of claim 32, wherein the flapper valve comprises a rigid plate adjoined to a flexible seal.

Claim 34 (cancelled)

Claim 35 (previously presented): A valve assembly for positioning inside a container having an inlet and an outlet for controlling a flow of a liquid from the inlet to the outlet comprising:

a valve seat defining an opening through which a liquid may exit a container, said valve seat being positioned at an angle relative to a horizontal reference that ranges from greater than zero to about 60 degrees; and

a flapper valve coupled to the valve seat.

Claim 36 (previously presented): The valve assembly of claim 35, wherein the flapper valve comprises a rigid plate that is rotationally coupled to the valve seat, and a flexible seal coupled to the rigid plate, said flexible seal configured to mate with the valve seat to close the opening.

Claim 37 (currently amended): The device of claim 1, wherein the container ~~if~~ is formed as a single piece utilizing rotational molding.